

CLAIMS:

1. A method of encoding a multichannel signal including at least a first signal component and a second signal component, the method comprising the steps of

- determining a set of filter parameters of a prediction filter such that the prediction filter provides an estimate of the second signal component when receiving the first signal component as an input; and
- representing the multichannel signal as the first signal component and the set of filter parameters.

2. A method according to claim 1, wherein the step of determining the set of

filter parameters comprises the step of determining the filter parameters such that a difference of the second signal component and the estimated signal component is smaller than a predetermined value.

3. A method according to claim 2, wherein the step of representing the

multichannel signal as the first signal component and the set of filter parameters further comprises the step of representing the multichannel signal as the first signal component, the set of filter parameters, and an error signal indicative of the difference of the second signal component and the estimated signal component, if said difference is not smaller than said predetermined value.

4. A method according to any one of claims 1 through 3, characterised in that the first signal component corresponds to a first signal energy and the second signal component corresponds to a second signal energy smaller than the first signal energy.

5. A method according to any one of claims 1 through 4, wherein the method further comprises the step of transforming at least a first source signal component and a second source signal component of a multichannel source signal into the first and second signal components.

6. A method according to claim 5, wherein the multichannel source signal comprises a stereophonic signal including a left and a right signal component.

7. A method according to any one of claims 1 through 6, wherein

- 5 - said first signal component is a principal component signal of a source multichannel signal including a number of source signal components and the second signal component is a corresponding residual signal;
- the method further comprises the step of transforming at least the first and second source signal components by a predetermined transformation into the principal component signal including most of the signal energy and at least the residual signal including less energy than the principal component signal, the predetermined transformation being parameterised by at least one transformation parameter; and
- 10 - the step of representing the multichannel signal as the first signal component and the set of filter parameters further comprises the step of representing the multichannel signal as the principal component signal, the set of filter parameters, and the transformation parameter.
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8. A method according to claim 7, wherein the predetermined transformation is a rotation and the transformation parameter corresponds to an angle of rotation.

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9. A method according to any one of claims 1 through 8, wherein the step of determining a set of filter parameters further comprises the step of determining at least one scaling parameter for scaling the estimate of the second signal component such that a measure of correlation between the second signal component and the estimate of the second signal component is increased.

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10. A method of decoding multichannel signal information, the method comprising the steps of

- receiving a first signal component and a set of filter parameters;
- 30 - estimating a second signal component using a prediction filter corresponding to the received set of filter parameters, the prediction filter receiving the received first signal component as an input.

11. A method according to claim 10, wherein

- the step of receiving the first signal component further comprises the step of receiving a transformation parameter, the first signal component corresponding to a result of a predetermined transformation of at least a first and a second source signal component of a source multichannel signal, the predetermined transformation being parameterised by at least the transformation parameter; and
- the method further comprises the step of generating a first and a second decoded signal component by inversely transforming the received first signal component and the estimated second signal component.

12. An arrangement for encoding a multichannel signal including at least a first signal component and a second signal component the arrangement comprising

- a prediction filter for estimating the second signal component, the prediction filter corresponding to a set of filter parameters and receiving the first signal component as an input; and
- processing means for representing the multichannel signal as the first signal component and the set of filter parameters.

13. An arrangement for decoding a multichannel signal corresponding to at least two signal components, the arrangement comprising

- receiving means for receiving a first signal component of the multichannel signal and a set of filter parameters;
- a prediction filter for estimating a second signal component of the multichannel signal, the prediction filter receiving the received set of filter parameters and the received first signal component as an input.

14. A data signal including multichannel signal information, the data signal being generated by a method of encoding a multichannel signal including at least a first signal component and a second signal component, the method comprising the steps of

- determining a set of filter parameters of a prediction filter such that the prediction filter provides an estimate of the second signal component when receiving the first signal component as an input; and
- representing the multichannel signal as the first signal component and the set of filter parameters.

15. A computer-readable medium comprising a data record indicative of multichannel signal information generated by a method of encoding a multichannel signal including at least a first signal component and a second signal component, the method comprising the steps of

- 5 - determining a set of filter parameters of a prediction filter such that the prediction filter provides an estimate of the second signal component when receiving the first signal component as an input; and
- representing the multichannel signal as the first signal component and the set of filter parameters.

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16. A device for communicating a multichannel signal, the device comprising an arrangement for encoding a multichannel signal including at least a first signal component and a second signal component the arrangement comprising

- 15 - a prediction filter for estimating the second signal component, the prediction filter corresponding to a set of filter parameters and receiving the first signal component as an input; and
- processing means for representing the multichannel signal as the first signal component and the set of filter parameters.